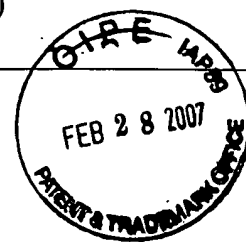


United States Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 59864.00665
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]	Application Number: 10/080,933 Filed: February 22, 2002
on _____	First Named Inventor: Jianzhong ZHANG et al.
Signature _____	Art Unit: 2611
Typed or printed Name _____	Examiner: Jean B. CORRIELUS



Mail Stop AF
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ Applicant/Inventor.
- ☐ assignee of record of the entire interest.
 See 37 CFR 3.71. Statement under
 37 CFR 3.73(b) is enclosed
- ☒ Attorney or agent of record.
 Registration No. 38,434

- ☐ Attorney or agent acting under 37 CFR 1.34.
 Reg. No. is acting under 37 CFR 1.34 _____

Signature

Luan C. Do

Typed or printed name

703-720-7872

Telephone number

February 28, 2007

Date

NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

- ☐ *Total of _____ forms are submitted.



**EXPEDITED PROCEDURE
EXAMINING GROUP 2611
PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No.: 6502

Jianzhong ZHANG et al.

Art Unit: 2611

Application No.: 10/080,933

Examiner: CORRIELUS, Jean B.

Filed: February 22, 2002

Attorney Dkt. No.: 59864.00665

For: APPARATUS, AND ASSOCIATED METHOD, FOR A MULTIPLE-INPUT,
MULTIPLE OUTPUT COMMUNICATION SYSTEM

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

February 28, 2007

Sir:

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005, Official Gazette Notice, Applicants hereby submit this Pre-Appeal Brief Request for Review of the final rejections of claims 21 and 23-42 in the above identified application.

Claims 21 and 23-42 were rejected in the Final Office Action dated October 31, 2006. Applicants filed a Response to the Final Office Action on January 5, 2007, and the Patent Office issued an Advisory Action dated January 23, 2007 maintaining the final rejections of claims 21 and 23-42. Applicants hereby appeal the rejections in the Final Office Action and submit this Pre-Appeal Brief Request for Review.

Claims 21, 23-26, 28-30, 32-34, 36 and 38-42 stand rejected under 35 U.S.C. §102(e) as being anticipated by Zangi et al. (U.S. Patent No. 6,775,322 – hereinafter Zangi). The rejection is traversed as being clearly erroneous in that the cited reference fails to disclose all of features

clearly recited in independent claims 1, 8, and 12. In view of the clear error in the rejection, withdrawal thereof is respectfully requested.

Claims 27 and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Zangi and Taylor et al. (U.S. Patent Application Publication No. 2002/0197987 – hereinafter Taylor). Applicants respectfully submit that a *prima facie* case supporting the rejection of claims 27 and 37 under 35 U.S.C. §103(a) has not been established because the cited references neither teach, disclose, nor suggest the novel combination of features clearly recited in dependent claims 27 and 37, and that there is clear error in the interpretation of the cited prior art supporting the rejections of claims 27 and 37.

Claims 31 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Zangi in view of Malkemes et al. (U.S. Patent Application Publication No. 2002/0106040 – hereinafter Malkemes). Applicants respectfully submit that a *prima facie* case supporting the rejection of claims 31 and 35 under 35 U.S.C. §103(a) has not been established because the cited references neither teach, disclose, nor suggest the novel combination of features clearly recited in dependent claims 31 and 35, and that there is clear error in the interpretation of the cited prior art supporting the rejections of claims 31 and 35.

With respect to the §102(e) rejection, the Office Action alleges that Zangi discloses each and every element recited in claims 21, 23-26, 28-30, 32-34, 36 and 38-42. Prior to responding to the Office Action's assertion, Applicants would like to summarize the invention of Zangi as follows:

According to Zangi, a method is disclosed for computing a coefficient of a finite impulse response pre-filter applied prior to a decision algorithm in an equalizer having adjustable filter coefficients. The filter may be used in a decision feedback sequence estimation (DFSE). According to Fig. 3 of Zangi, the equalizer 100 includes a pre-filter 102, a summer 106, a decision algorithm 108, a feedback filter 104, and a processor 120 which includes an adaptive algorithm 124 and a channel estimator 122. In the application of Zangi, the Examiner appears to have improperly mischaracterized the subject matter described and illustrated in Figs. 1 and 3 of Zangi.

With respect to the §102(e) rejection of independent claim 21, in the paragraph bridging pages 3 and 4 of the Final Office Action, the Examiner improperly equated Zangi's equalization

filter 101 and decision unit 108 as Applicants' claimed decision feedback sequence estimator (DFSE). Notably, in the same paragraph mentioned above, the Examiner immediately provided a different interpretation of Zangi and asserted that the decision unit 108 of Zangi is also "MLSE 108". That is, the decision unit 108 of Zangi is also allegedly equivalent to Applicants' claimed MLSE (e.g., MLSE 102 in Fig. 3 of the present invention), while the equalization unit 101 and the decision unit 108 of Zangi are equivalent to Applicants' DFSE (e.g., DFSE 58 in Fig. 3 of the present invention). Clearly, the Examiner's interpretation is incorrect in that the decision unit 108 of Zangi cannot be interpreted as simultaneously being two different features of Applicants' claimed invention.

Further, Applicants respectfully submit that the features disclosed in Fig. 3 of Zangi are directed to equalizer 100, and that equalizer 100 is a part of receiver 15, as shown in Fig. 1 of Zangi. As such, the Examiner's allegation that "the signal estimator 122" is in communication with the "signal filter" is inappropriate because Zangi actually discloses the "signal estimator 122" as a part of processor 120 in equalizer 100, which is actually in communication with sampler 18, as shown in Fig. 1 of Zangi. That is, in applying Zangi, the Examiner failed to consider Zangi in its entirety, and the Examiner improperly picked and chose features deemed relevant while ignoring the features pertinent to the intended function of the disclosed invention of Zangi.

Moreover, the Examiner's allegation that "signal optimizer 124" is in communication with the "signal filter" since it receives output from the "estimator 122 to calculate the coefficients" is insupportable because element 124 of Zangi is actually an adaptive algorithm that cooperates with the channel estimator 122 in the processor 120 of the equalizer 100, as shown in Figs. 1 and 3 of Zangi which bear little similarity to those in Figs. 1, 2, and 3 of the present specification and of Applicants' claimed invention.

With respect to the §102(e) rejection of independent claim 32, Applicants note that the Examiner admitted that Zangi fails to teach the features recited in claim 35 as shown in Section 12, page 8, of the Final Office Action. Hence, by the incorporating the features of claim 35 into claim 32, claim 32 should now be allowable over Zangi.

With respect to the anticipatory rejection of independent claim 38, Applicants respectfully assert that, the arguments set forth above in relation to the rejection of independent claim 21 are also applicable to overcome the rejection of independent claim 38.

At least for the amendments and arguments set forth above in relation to independent claims 21, 32, and 38, the application of Zangi in the anticipatory rejection of their respective dependent claims 23-26, 28-30, 33-34, 36 and 39-42 is also insupportable because Zangi fails to anticipate each and every limitation recited in claims 21, 23-26, 28-30, 32-34, 36 and 38-42.

With respect to the obviousness rejection of claims 27 and 37, in Section 11, on page 7 of the detailed Office Action, the Examiner asserted that the demodulator 56 of Taylor is equivalent to Applicants' MLSE. However, as shown in Fig. 3 of Taylor, the demodulator 56 is situated between receiver 54 and de-interleaver 58, and it appears that the demodulator 56 is simply for demodulating a received signal and has no resemblance to Applicants' claimed maximum likelihood sequence estimator (i.e., MLSE 102 as shown in Fig. 3 of the present invention).

Still further, Applicants respectfully assert that neither Taylor nor Zangi teaches, discloses or suggests how or why their respective different inventions may be combined to arrive at Applicants' claimed invention to achieve an efficient way to process encoding and decoding scheme for a MIMO communication system, especially when neither Taylor nor Zangi appears to be related to a MIMO communication system.

With respect to the obviousness rejection of claims 31 and 35, Applicants respectfully assert that Malkemes describes a method and apparatus for reducing multipath distortion in a wireless LAN system with a plurality of antennae 102, and tuners 108 and 110 that provide received signals to a timing recover circuitry 112 and a spatial diversity combiner 150. However, Malkemes does not appear to teach, disclose or suggest a DFSE having the configuration as recited in claim 21 or a method having the steps recited in claim 32, and Zangi does not teach, disclose or suggest a multiple-input and multiple-output communication system. Hence, the combination of Malkemes and Zangi still does not arrive at Applicants' claimed invention as recited in claims 31 and 35.

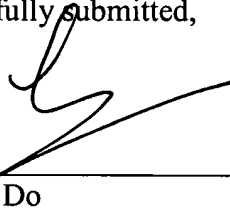
In conclusion, Applicants submit that each of claims 21 and 23-42 recites subject matter that is not taught, shown, or otherwise suggested by the cited prior art references to Zangi, Taylor, and Malkemes. For all of the above noted reasons, it is submitted that certain clear

differences exist between the present invention as claimed in claims 21 and 23-42 and the cited prior art references relied upon by the Office Action.

It is further submitted that these differences are more than sufficient that the present invention would not have been anticipated or obvious to a person having ordinary skill in the art at the time the invention was made. This final rejection being in clear error, therefore, it is respectfully requested that the Examiner's decision be reversed in this case regarding the rejections of claims 21 and 23-42, and indicate the allowability of all of pending claims 21 and 23-42. Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested.

In the event this paper is not being timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: PTO/SB/33 Form
Notice of Appeal
Petition for Extension of Time
Check No. 15925